

Application Serial No: 10/530,725

REMARKS

This Supplemental Amendment is provided to clarify the claim language of claim 1 in response to the telephonic Examiner interview of June 30, 2009 and to clarify the arguments presented in the June 22, 2009 Amendment based on the amended claim language. Claim 1 is amended for clarity. No new matter is added. Claims 1-13 are pending.

Examiner Interview:

Applicants thank the Examiner, Mr. Neil Turk for the telephonic interview that took place on June 30, 2009 with Applicant's representative Amol Kavathekar. In the interview, the claim amendments made in the June 22, 2009 Amendment were discussed. The Examiner noted the substance of the claim amendments but noted clarity issues in how the amendments were implemented. In particular, the Examiner noted that the claim should be amended to remove the preliminary relationship determination language from the calculation step and include the language as an additional recited step in the method claim. The Examiner noted that he would consider a supplemental amendment if we were to pursue this course of action.

§112, Second Paragraph:

Claims 1-13 are rejected as being indefinite. With respect to claim 1, the rejection asserts that the features of the "calculation" step are not clear. With respect to claim 6, the rejection asserts that the features of the "storage" are not clear.

Applicants note that claims 1 and 6 are not directed to light irradiation with multiple wavelengths at the time of actual measurement, but to fluctuations or variations of a wavelength due to temperature fluctuations of a light source. A light source is inevitably subjected to temperature fluctuations, which causes the wavelength of light generated by the same light source also to fluctuate within a very small range depending on the particular temperature at a particular time point of measurement. These "variations of wavelength", as recited in claims 1 and 6, can result in an inaccurate calculation of a concentration of a specific component in a sample liquid unless accounted for, such as in claims 1 and 6. For clarification, claim 1 is amended to recite

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"a wavelength determination step of determining a relationship between variations of response and variations of wavelength with respect to a reference board whose response varies continuously as the wavelength of light irradiated onto the reference board varies, the variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response". Also, claim 6 is amended to recite that "the variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response".

Withdrawal of this rejection is requested.

§102 Rejections:

Claims 1-13 are rejected as being anticipated by Matzinger (US Patent No. 5,780,304). This rejection is traversed.

Claim 1 is directed to an analyzing method that recites, inter alia, a wavelength determination step of determining a relationship between variations of response and variations of wavelength with respect to a reference board whose response varies continuously as the wavelength of light irradiated onto the reference board varies, the variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response. Claim 1 also recites a calculation step of calculating a concentration of a specific component in the sample liquid based on the predetermined relationship between variations of response and variations of wavelength with respect to the reference board, and the first and second detection results.

Matzinger does not disclose or suggest these features. In particular, Matzinger does not disclose, or even contemplate, a wavelength determination step of determining a relationship between variations of response and variations of wavelength with respect to a reference board whose response varies continuously as the wavelength of light irradiated onto the reference board varies, the variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response. Also, nowhere does Matzinger contemplate accounting for variations of wavelength in its calculation step.

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In contrast, Matzinger discloses that adjustment is made so that each of the different measuring apparatuses provides a proper quantity of light energy (i.e., intensity of light) of each LED that is designed to emit light at a fixed wavelength of 660 nm or 940 nm (see column 11, lines 16-18 and column 12, lines 25-56). Matzinger also includes a gray target (45) and a standard zone (60), in which the gray target (45) is not dependent on wavelength. Also, the standard zone (60) only provides a higher reflectance than a reaction zone, and wavelength dependence of the standard zone (60) is not used for measurement correction (see column 9, line 66-page 10, line 21). Thus, any adjustment or correction made to the method is based on the assumption that each LED emits light at a fixed wavelength.

Accordingly, nowhere does Matzinger disclose or suggest a wavelength determination step of determining a relationship between variations of response and variations of wavelength with respect to a reference board whose response varies continuously as the wavelength of light irradiated onto the reference board varies, the variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response. Thus, Matzinger also cannot disclose or suggest a calculation step of calculating a concentration of a specific component in the sample liquid based on the predetermined relationship between variations of response and variations of wavelength with respect to the reference board, and the first and second detection results.

An advantage of these features is that an accurate optical measurement of the concentration of a specific component in a sample liquid can be obtained even if the wavelength of the light irradiated onto a reaction system deviates from an intended value. For at least these reasons claim 1 is not suggested by Matzinger. Claims 2-5 depend from claim 1 and should be allowed for at least the same reasons.

Claim 6 is directed to an analyzing device that requires, among other features, a storage for storing the relationship between variations of response and variations of wavelength with respect to a reference board whose response varies continuously as the wavelength of light irradiated onto the reference board varies, variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response.

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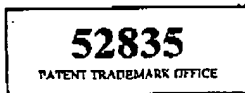
Matzinger does not disclose or suggest these features. In particular, Matzinger does not disclose, or even contemplate, variations of wavelength. As discussed above, in Matzinger, adjustment is made so that each of different measuring apparatuses provides a proper quantity of light energy (i.e., intensity of light) of each LED which is designed to emit light at a fixed wavelength of 660 nm or 940 nm (see column 11, lines 16-18 and column 12, lines 25-56). Matzinger also includes a gray target (45) and a standard zone (60). However, the gray target (45) is not dependent on wavelength. The standard zone (60) only provides a higher reflectance than a reaction zone, and wavelength dependence of the standard zone (60) is not used for measurement correction (see column 9, line 66-page 10, line 21). Thus, any adjustment or correction made to the method is based on the assumption that each LED emits light at a fixed wavelength.

Accordingly, Matzinger does not disclose or suggest variations of wavelength. Thus, Matzinger also does not disclose or suggest a storage for storing the relationship between variations of response and variations of wavelength with respect to a reference board whose response varies continuously as the wavelength of light irradiated onto the reference board varies, variations of the wavelength of irradiated light being caused by environmental temperature changes that also cause fluctuations of response. For at least these reasons claim 6 is not suggested by Matzinger. Claims 7-13 depend from claim 6 and should be allowed for at least the same reasons.

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Conclusion:

Applicant respectfully asserts that claims 1-13 are in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicant's primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.



Dated: July 30, 2009

Respectfully submitted,

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